

Remarks

IDS

Applicant notes that an IDS is submitted herewith for the Examiner's review, together with a PTO 2038 authorizing charging a credit card for the prescribed IDS fee of \$180. The IDS includes a copy of the German reference cited (DE 39 14 834 A1) in German, and an abstract of the document in English.

Claim Rejections Under 35 USC 112

Claims 2 and 10 are rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention.

Claim 2 has been amended such that "this" has been deleted and replaced with "the heat exchange body". Applicant respectfully believes this amendment overcomes the Examiner's objections.

The Office Action notes that Claim 10 recites "according to one of the foregoing claims". It should be noted that dependency in claim 10 was deleted in the Preliminary Amendment for this case. Consequently, the Examiner must have been reviewing a non-amended version of the claim, and the objection was overcome in the Preliminary Amendment.

Claim Rejections Under 35 USC 103

Claims 1, 3, 4, 6 and 8 are rejected as being unpatentable over Easterly in view of Mariani.

Claim 7 is rejected as being unpatentable over Easterly in view of Mariani.

In clarifying the principle construction of the heating device of the present invention (as set forth in this Amendment to claim 1), the differences between Easterly

and the present invention are evident. Easterly discloses a concentric arrangement of three housings 22, 46 and 38. The outer housing 22 defines an interior space 36, denominated as the exhaust chamber. On Easterly's interior side, the exhaust chamber is defined by the housing 46, which also constitutes the outer barrier of chamber 34. The inner barrier of chamber 34 is constituted by housing 38, which also constitutes the outer barrier of chamber 32. While chamber 32, (the innermost chamber), is filled with water to be heated, chamber 34 (the chamber surrounding the water filled chamber 32) surrounded by the exhaust chamber is filled with air to be heated. The only substantial contact between these chambers is provided by the heat conducting plate 30, which receives heat from the exhaust gas produced by the burner assembly 58.

One substantial difference between this arrangement and the arrangement of the present invention is set forth as follows. Due to the fact that, as now clearly stated in claim 1, the present invention's heat transfer ribs are provided on the outside of the heat exchanger body. Additionally, this means that the first heat exchanger region is also arranged on the outside of the heat exchanger body. Contrary to the arrangement found in the present invention, Easterly discloses a heating device in which the first heat exchanger region is obviously provided on the inside of the heat exchanger body, i.e., the housing 22. Additionally, the second heat exchanger region is arranged on the inside of housing 46. Therefore, Easterly's first heat exchanger region is also arranged on the inside of the heat exchanger body (the housing 22). Thus, it is clear that the Examiner starts out with an arrangement that in principle cannot be compared to the present invention's arrangement. Even if housing 46 was considered to be the heat exchanger body of the present invention, this would mean that the combustion exhaust gas

conducting space would not be surrounded by the heat exchanger body, but would surround the heat exchanger body.

Given Easterly's different construction, even with consideration of Mariani, the person of ordinary skill in the art cannot combine Easterly and Mariani and arrive at the present invention. Mariani discloses the provision of ribs 11 and 12 on the outer side of a housing that in the sense of the present application could be considered as the heat exchanger body. This housing or body is surrounded by a space 17 through which the air to be heated flows. A water tank 13 defines space 17 at its outer side and, as can clearly be seen in Mariani's Figure 1, is also arranged leaving a space to the ribs 11. Obviously, Mariani basically shows a construction that (insofar as the concentric arrangement of the three chambers is concerned) is opposite that shown in Easterly. In Mariani, the exhaust chamber is the innermost chamber, the air chamber is arranged in the middle, and the water containing chamber is arranged on the outside. As in Easterly, there is no direct contact between the walls defining and separating the three chambers from one another. Therefore, Applicant doubts that the person of ordinary skill in the art would try to combine the teachings of Easterly and Mariani. However, if the person of ordinary skill in the art would try to combine these teachings, starting from Easterly, the person would obviously provide Mariani's ribs 11 on the inside of housing 46 separating the exhaust chamber and the air flow chamber for enlarging the surface on which heat can be transferred to the air that is to be heated. However, in considering the teachings of Mariani, the person of ordinary skill in the art would provide no contact between these ribs and the housing defining the water chamber, since Mariani obviously avoids such contact.

Even if the person of ordinary skill in the art were to provide such ribs on the inside of Easterly's housing 46, the artisan cannot arrive at the present invention's heating device of claim 1. This is due to the fact that, first, it cannot be stated that there is provided a medium conducting duct of the second heat exchanger region passing at least partly through such heat transfer ribs. There is not even contact between these (not present) ribs. Secondly, these ribs would not be present on the outside of the heat exchanger body and would not even be present on the heat exchanger body itself, which obviously must be considered as the housing 22. Applicant respectfully believes that the person of ordinary skill in the art would not even consider providing ribs on the outside of housing 22, as providing ribs on the outside would obviously lead to a heat transfer to the surrounding area, which should normally be avoided.

The presently amended claims do not add new matter, but rather, merely clarify what Applicant regards to be the invention. Applicant respectfully believes that, in view of the amended (clarified) claims, as well as the above arguments, the present claims overcome the present rejections and should be allowable. Further, as amended, Applicant respectfully believes that claim 5 should be allowable without being amended to include the features of the base claim and any intervening claims, as suggested by the Examiner.

A two month extension of time in which to respond to the outstanding office action is respectfully requested. PTO 2038 is included herewith, authorizing charging a credit card for the prescribed large entity two month extension fee of \$460.

Respectfully submitted,



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Certification under 37 CFR 1.8: I hereby certify this correspondence is being submitted to Mail Stop Amendment, Art Unit 3749, Commissioner for Patents, Alexandria, Virginia by facsimile transmission, on 11/04/2007, fax number (571) 273 8300.



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